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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/592,436	06/12/2000	Lisa Cousins	571-651	5154

1059 7590 04/07/2004

BERESKIN AND PARR
SCOTIA PLAZA
40 KING STREET WEST-SUITE 4000 BOX 401
TORONTO, ON M5H 3Y2
CANADA

EXAMINER	
VANORE, DAVID A	
ART UNIT	**PAPER NUMBER**
2881	

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/592,436	COUSINS ET AL.	
	Examiner	Art Unit	
	David A Vanore	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 February 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-16,18,19 and 21-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-16,18,19 and 21-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 February 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Arguments

Applicant's arguments filed March 3, 2004 have been fully considered but they are not persuasive.

The arguments tendered in reply to the previous Office action rely on the applicant's incorrect interpretation of Whitehouse et al. regarding the required mass selection element situated prior to a collision cell.

The applicant has asserted that no such mass selection element exists prior to a collision cell element in Whitehouse et al. and has misquoted the examiners citation in reply. In the previous Office action, the examiner drew attention to Col. 22 Lines 1-28, not 1-22.

Close inspection of the previously cited portion of Whitehouse et al. (Col. 22 Lines 1-28), which describes the embodiment in Fig. 4, demonstrates that there are two ion guides (Items 110 and 111). Whitehouse et al. states *"...both ion guides are operated in trapping mode with different m/z [mass to charge] range selection chosen for each ion guide,"* and continues *"The different ion populations from both [ion] guides can then be recombined by acceleration of ions from one ion guide into the other to check for ion reactions...,"* and concludes the paragraph with *"The ion guide m/z [mass to charge] selection and ion fragmentation techniques described in previous sections can be applied to multipole ion guide embodiment shown in Fig. 4 to achieve most of the equivalent and even some additional MS/MS^n analysis performance capability."*

Taken as a whole, Whitehouse et al. clearly teaches that the ion guides 110 and 111 operate both as elements for mass selection and elements which can perform as

collision cells for the purpose of fragmenting ions. It is readily apparent, especially as Whitehouse et al. points out the term MS/MS^n, that ions are sent back and forth "n" desired times through a cycle of mass selection and fragmentation between guides 110 and 111. Therefore, a mass selection element transmits a stream of ions of selected mass to charge ratio to a fragmentation (also called collision) cell as required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-6, 8-16, 18-19, and 21-32 stand rejected under 35 U.S.C. 102(e) as being clearly anticipated by Whitehouse et al.

Whitehouse et al. teaches a mass spectrometer device and method for the analysis of a specimen comprising the following:

1) An electrospray ion source (1), a plurality of multipoles (110 and 111) which may be a quadrupole, octapole, or higher rod number device, having an RF and AC

field applied thereto (Col. 12 Lines 22-29 and Col. 14 Lines 38-Col. 15 Line 19) for the repeated selection, trapping and fragmentation of ions on their m/z basis (Col. 21-22), a collision gas in the multipole (Col. 11 Lines 19-50) where the collisions occur in the multipole at a resonant frequency to excite desired ions, a modulation means for adjusting the applied alternating current (Col. 16 Lines 47-50), and a detector (47) where the signal produced from many data sets of mass spectra is collected and passed to an analysis means where alternating data sets are subtracted from others to screen parent and daughter ion peaks (Col. 15 Line 5-19) as recited in claims 1, 5, 6, 10, 11, 12, 14, 15, 21-32.

While Whitehouse fails to explictily teach a switch, the device of Whitehouse detects and sorts the data received from multiple generations of parent and offspring ions as cited above. The switching means for manipulating the detected data is an inherent feature of Whitehouse et al.

2) The second power supply and modulation unit recited in claim 16 are inherent features of Whitehouse et al. Whitehouse et al. teaches the application of AC, RF, and DC potentials to the multipole (16) and the modulation of all of these signal in the cited passages above. Necessarily, the device has a plurality of power supplies and modulation means would have to be coupled to the power supplies.

3) A first mass analysis section for selecting a parent ion and detecting with detector (38), a final mass analysis section including a detector (47), where the final mass analyzer includes a scanning mass analyzer with a time of flight detection means (Col. 8 Lines 31-35) as recited in claims 18-19.

4) The selection of a desired m/z ratio, providing a potential difference to accelerate ions into the collision cell, fragmenting selected ions using their kinetic energy or by applying a resonant field to create any of a plurality of offspring ions (Col. 8 Line 36-Col. 9 Line18) as recited in claims 8-9. The generation of secondary, tertiary, or quaternary offspring ions is an inherent capacity in MS/MS^n devices.

5) A device which uses statistical analysis to select data and performs time of flight mass analysis in real time (Col. 7 Line 52-61) as recited in claims 2 and 4. The use of a software program to perform statistical analysis on the data as recited in claim 3, is an inherent feature of the invention of Whitehouse et al. because the use of a computer to process data in a mass spectrometer, especially one such as Whitehouse et al. which analyzes a large quantity of spectra data, is necessary and conventional.

6) A method of analyzing a specimen where an alternating current is applied and turned on and off to selectively generate different species of ions for analysis (Col. 14 Lines 38-60) as recited in claim 13.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David A Vanore whose telephone number is (571) 272-2483. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dav

JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800